

Abstract

At least one of the interior wall of a reactor and a susceptor installed in the reactor is coated with an  $\text{Al}_a\text{Ga}_b\text{In}_c\text{N}$  ( $a+b+c=1$ ,  $a>0$ ) film, which is heated to about  $1000^\circ\text{C}$  or over when a substrate is heated to a predetermined temperature so as to generate the MOCVD reaction between a III raw material gas and a V raw material gas. Therefore, the  $\text{Al}_p\text{Ga}_q\text{In}_r\text{N}$  ( $p+q+r=1$ ) compound generated from the raw material gases is deposited on the coated  $\text{Al}_a\text{Ga}_b\text{In}_c\text{N}$  ( $a+b+c=1$ ,  $a>0$ ) film, and thus, particles composed of the  $\text{Al}_p\text{Ga}_q\text{In}_r\text{N}$  compound are not almost created. As a result, the resulting  $\text{Al}_x\text{Ga}_y\text{In}_z\text{N}$  ( $x+y+z=1$ ) film is not affected by the particles, and can have its desirable quality.

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